

Application No. 10/632,268
SECOND DECLARATION OF CHRISTIAN T. GREGORY
UNDER 37 C.F.R. § 1.132

2. I have personal knowledge of the matters stated herein.
3. The assignee of the above-captioned application is Rain Bird Corporation ("Rain Bird"). I have been employed at Rain Bird for over seven years and currently am a Senior Project Engineer at Rain Bird.
4. Rain Bird's business includes developing, manufacturing, and selling irrigation products including sprinklers.

II. Nozzle A and Nozzle B

5. I supervised and participated in a comparative test and study of the close-in watering capabilities of two different spray nozzles, which I refer to as Nozzle A and Nozzle B.
6. Nozzle A includes a plurality of discrete ramps formed at a lower margin of a nozzle outlet. These ramps extend forwardly and angularly downwardly from the nozzle lower margin. The upstream end of the ramps are positioned upstream relative to the front face of the nozzle at the nozzle outlet.
7. It is my understanding that Nozzle A is covered by at least claims 1, 15, and 21 of my U.S. Patent Application Number 10/632,268.
8. Nozzle B includes a plurality of discrete ramps formed at a lower margin of the nozzle outlet. These ramps extend forwardly and angularly downwardly from the nozzle lower margin. However, the upstream end of the nozzle ramps of Nozzle B extend from the front face of the nozzle at the nozzle outlet and not from any position upstream from the front face. In other words, the upstream end of the nozzle ramps is at the front face.

9. Nozzle B is a commercially available nozzle from Rain Bird. It is my understanding that Nozzle B is depicted in FIG. 3 of US D415,415 and is discussed in the Amendment C submitted contemporaneously with this Declaration. In addition, it is also my understanding that Nozzle B is being cited in a second supplemental IDS submitted contemporaneously with this Declaration.

III. Comparative Test Protocol

10. The comparative test mentioned above measured the distance water at 45 psi was projected from each of Nozzle A and Nozzle B when used in a rotor-type sprinkler for 10 minutes.

11. The water spray distance was measured by placing twenty-four plastic catch cans (4 inch square) on a 2" x 4" board. Adjacent cans were in contact with one each other, and the first can of the series touched the rotor. The top of each catch can was at the same height as the rotor cover (*i.e.*, generally ground level).

11. Nozzle A and Nozzle B were each put in the rotor separately and operated to project a water spray onto the line of catch cans for 10 minutes.

12. After each 10 minute test interval, the amount of water recovered in each of the individual cans was measured and recorded.

IV. Results of the Comparative Test

13. Figure 1 of the attached Appendix is a chart indicating the amount of water collected in each of the catch cans for the testing of Nozzle A and Nozzle B.

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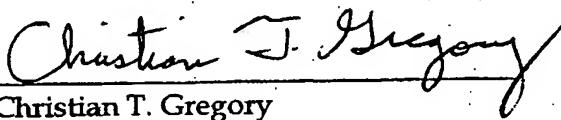
14. According to the chart of Figure 1, Nozzle A provided enhanced watering close-in to the rotor, i.e., in the area about the rotor out to about 6 inches when compared to nozzle B. More specifically, can No. 1 had over 120 ml of water and can No. 2 had approximately 135 ml of water.

15. On the other hand, Nozzle B provided about 5 ml of water in can No. 1 and slightly more in can No. 2. Thus, Nozzle A provided significantly more water in can Nos. 1 and 2.

14. Figures 2 and 3 of the Appendix are photographs of the water fan of Nozzle A and Nozzle B, respectively, and visually illustrate the improvement in close in watering of Nozzle A over Nozzle B.

I declare under penalty of perjury that the foregoing is true and correct.

Executed this 7TH day of JULY, 2006.


Christian T. Gregory

Appendix:

FIG. 1: Water Distribution Comparison Nozzle A vs. Nozzle B

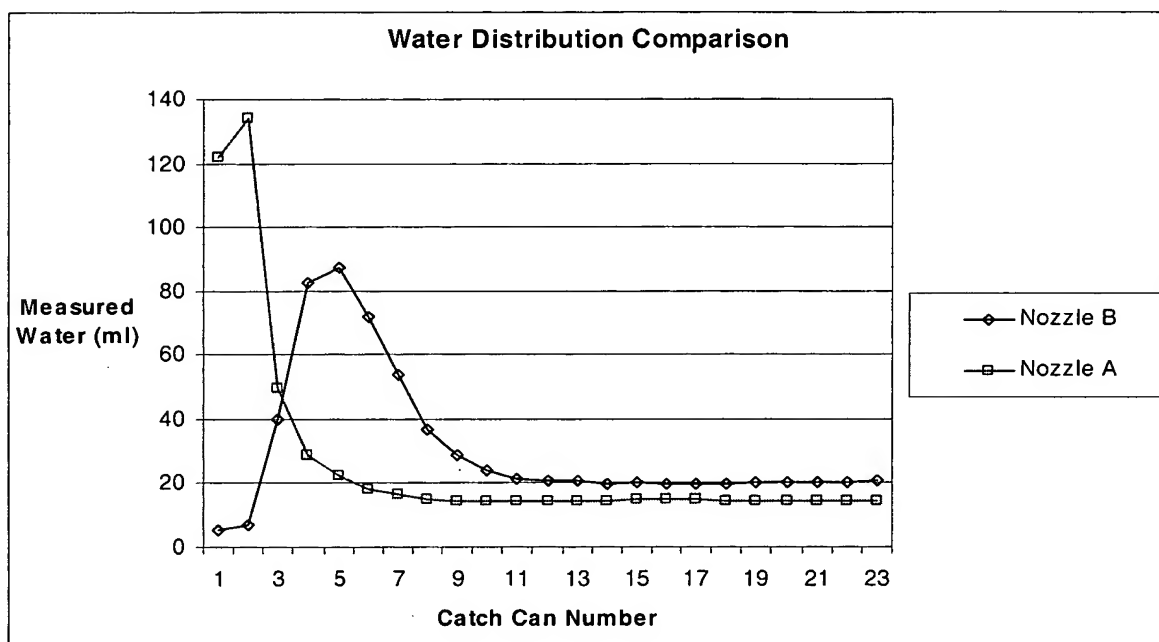


FIG. 2: Nozzle A photograph

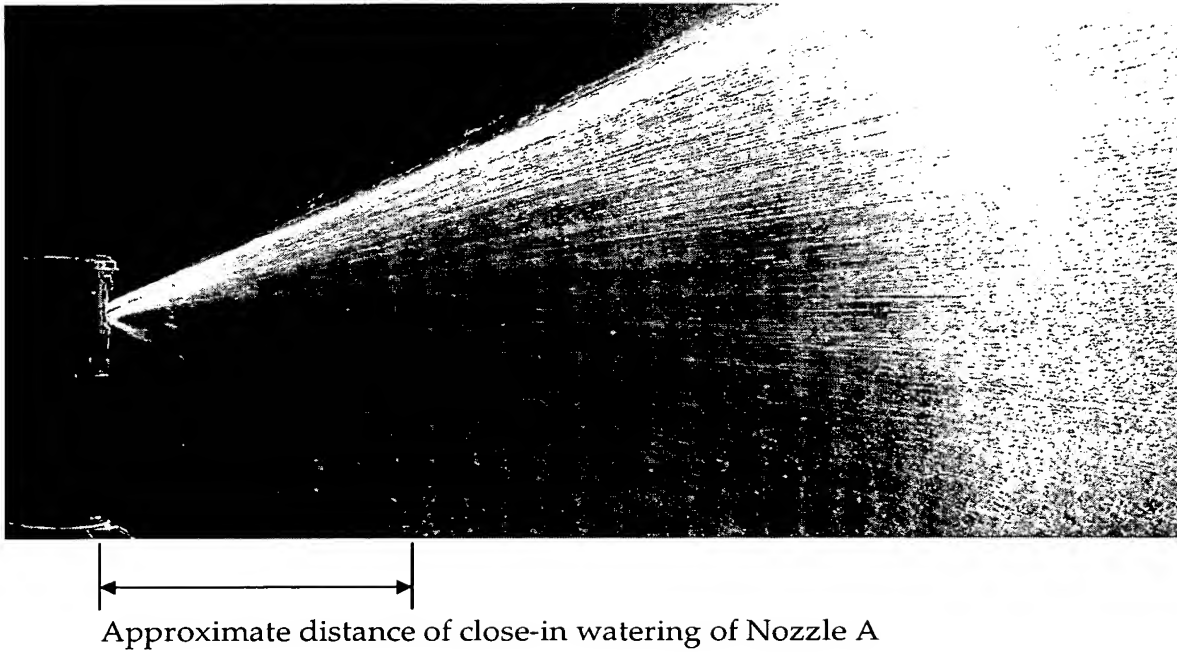
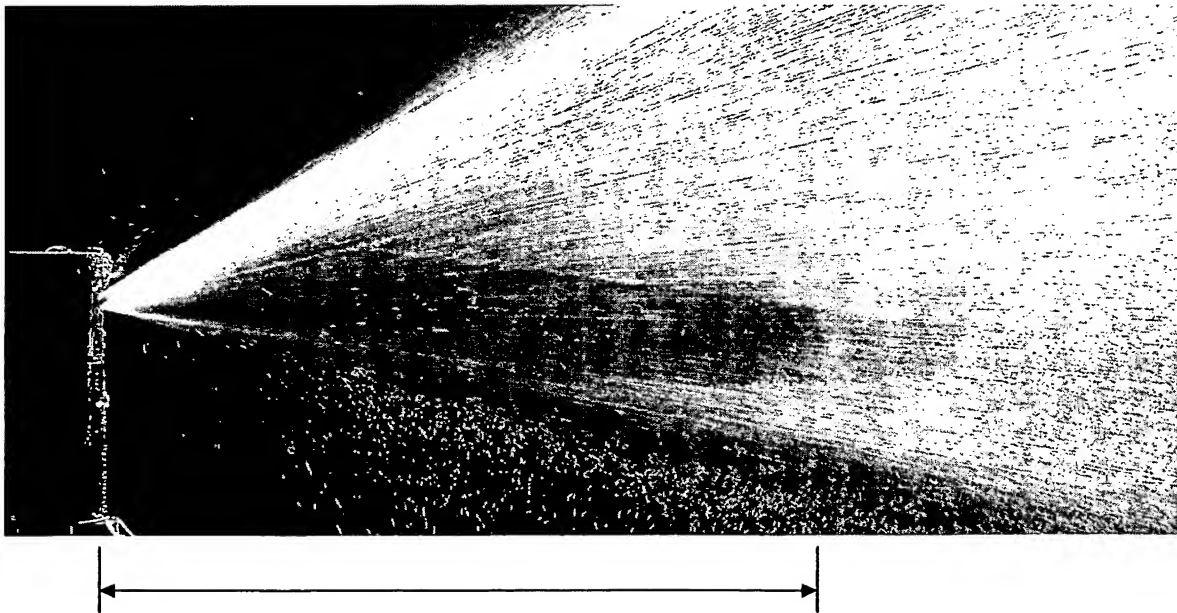


FIG. 3: Nozzle B photograph



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Approximate distance of close-in watering of Nozzle B